LETTERS TO THE EDITOR

Regarding "A new approach to carotid angioplasty and stenting with transcervial occlusion and protective shunting: Why it may be a better carotid artery intervention"

Our method for achieving flow reversal to prevent emboli during CAS via a cervical approach (J Vasc Surg 2004;39:994-1002) is similar to one described by Parodi et al[1] to achieve the same ends via a transfemoral approach. We had acknowledged this in an early draft of our article. Although the Parodi device is cited in the references of the published version, direct reference in the body of the text was omitted because of limitations on space.

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Regarding "Aortofemoral bypass in young patients with premature atherosclerosis: Is superficial femoral vein superior to Dacron?"

Morasch et al used the term "superficial femoral vein" in their article, "Aortofemoral bypass in young patients with premature atherosclerosis: Is superficial femoral vein superior to Dacron?" (J Vasc Surg 2004;40:17-23). This terminology should not be used in a medical publication.

Caggiati et al[1] argued that the unauthorized term "superficial femoral vein" should not be used for the femoral vein, which is, without doubt, a deep vein. Also, "superficial femoral vein" is not in the *Terminologica Anatomica*.

This same mistake was made by Modrall et al,[2] who used the term in their article, "Comparison of superficial femoral vein and saphenous vein as conduits for mesenteric arterial bypass."

A common anatomic terminology is the foundation for a common language in phlebologic sciences. Further, such a common language is important for investigation of the vascular system and for accurate diagnosis and correct treatment.

It is unfortunate that the above misusage was overlooked by the editor and reviewer of such a fine journal as *Journal of Vascular Surgery*. We hope that in the future more effort will be made for better reference.

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2. Modrall JG, Sadjadi J, Joiner DR, Ali A, Welborn MB III, Jackson MR, et al. Comparison of superficial femoral vein and saphenous vein as conduits for mesenteric arterial bypass. J Vasc Surg 2003;37:362-6.

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Reply

The editors thank Drs Kim and Yul for pointing out the proper terminology that should have been used in the 2 papers published in the Journal concerning use of femoral and popliteal vein segments for arterial reconstructive procedures. Both of these papers are from the vascular surgery group at the University of Texas Southwestern, who pioneered these techniques at a time when the femoral vein was still commonly termed the "superficial femoral vein." Subsequent usage of this incorrect term has persisted, and indeed was not corrected by the editors during the review process for these 2 recent papers. We completely agree with Drs Kim and Yul that a common language is important for accurately communicating new scientific information.

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Regarding "Floating thoracic aortic thrombus in 'protein S' deficient patient"

We read with interest the report by Hazirolam et al (J Vasc Surg 2004;40:381) describing a floating thoracic aortic thrombus in a woman with protein C deficiency. The authors report that she was treated with warfarin, but no mention is made of whether a prior treatment with heparin was carried out. It is known that protein C and, in particular, protein S deficiency may be predisposing conditions for occurrence of acute arterial thrombosis.[1] Warfarin decreases the production not only of vitamin K–dependent clotting factors, but also of protein C, an endogenous anticoagulant factor. Protein S acts as a cofactor permitting the inhibitory function of protein C, which is fully dependent on protein S to express its anticoagulant activity.[2] At the beginning of warfarin therapy, protein C and factor VII rapidly drop, whereas factor X and prothrombin levels decrease in 3 to 9 days. The difference in kynetics—eg, factor VII and protein C have a short half-life (about 6-8 hours), prothrombin has a longer one (approximately 100 hours), and factors IX and X have an intermediate half-life—may lead to a transitory hypercoagulative status, particularly during the first 12 to 26 hours of warfarin administration.[3] We have described a fatal case of acute thorombosis of abdominal aorta in a female patient shortly after starting warfarin therapy without previously being treated with heparin for the onset of atrial fibrillation.[4] The observation that protein C and protein S deficiency may predispose to warfarin-induced skin necrosis and thrombosis, however, does not mandate that their levels always be measured before starting oral anticoagulant therapy. The rarity of this and other genetic trombophilic associations[5] and their possible complications, in fact, makes this approach impractical. However, to prevent possi-

ble complications, it is advisable to always provide coverage with therapeutic dose of heparin during the critical initial window, then start with low doses of warfarin, and gradually increase the dose until the therapeutic range is reached.

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Reply

We thank Dr Manfredini and his colleagues for their interest in this topic and agree with their assessment. The patient we have described initially presented 2 years previously to another hospital with deep venous thrombosis and at that time she underwent anticoagulation therapy with heparin as an inpatient, followed by transition to warfarin therapy. Her records indicate that the aortic thrombus (as well as thrombus involving upper extremities) occurred despite concurrent warfarin therapy.

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Regarding "Decreased use of iliac extensions and reduced graft junctions with software assisted centerline measurements"

The study by Valazquez et al (J Vasc Surg 2004;40:222-7) demonstrates that computer-derived centerline measurements allow sufficiently precise estimates of endograft fabric length, and thus endograft sizing can be planned more accurately before surgery. This results in a lesser requirement for iliac extensions and endograft junctions in genera,l as compared with the era when the authors used sizing catheter and calipers for estimating endograft length.

This was first described by our laboratory in March 2000[1] in a study that demonstrated the superior accuracy of our computer-generated central flowline (centerline) measurements of length over sizing catheter and caliper measurements. The computer software program was validated with glass phantoms, with measurements simultaneously carried out with electronic calipers for length and pyknometry for volume. Since then we have noted that endografts vary considerable in flexibility and stiffness. For example, the Guidant unsupported endograft and our own homemade polytetrafluoroethylene endograft[1] are at the flexible end of the spectrum, and the less flexible AneuRx endograft is at the stiffer end. The sizing catheter takes the shortest route ("as the crow flies") through the various angulations of the aneurysm from the proximal to the distal landing site. To confuse matters further, the stiffness of the sizing catheter is quite different from that of the stiff endografts. Fabric length calculated by this means is shorter than if one used the central flow line.

Because of this, using central flowline measurements we select a slightly longer fabric length when using a flexible endograft than with a stiffer device. Even so, there is an element of guesswork in selection of the final fabric length. We concur with Velazquez et al that computer-generated central flowline measurements are more accurate and represent a better guide for endograft sizing and planning.

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Reply

We appreciate and thank Dr Adiseshiah for comments offered in agreement with our recently reported findings.[1] We are familiar with the noted previous study in which phantom glass aneurysms filled with contrast material were used to validate the accuracy and feasibility in clinical use of 3-dimensional spiral computed tomography angiography for preoperative measurements in planning endovascular abdominal aortic aneurysm repair (EVAR). In that work the authors' specific focus centered on volumetric measurements.[2] Their software model of computer-generated centerline measurements also demonstrated high accuracy in measurement of length, and was superior to sizing catheters or caliper measurements. These findings are consistent with our currently reported work in which we used the now commercially available MMS software (Medical Metrx Solutions), and noted an associated highly significant decrease in use of iliac extensions.

We agree that the issue of optimal length measurements in the preoperative planning phase for EVAR may be more complex than initially thought, and is likely to be affected by endograft-specific design features that affect endograft flexibility and profile, as well as patient-specific aneurysm anatomy such as degree of angulation and tortuosity. As the technology for EVAR evolves, further study of this subject may be required in efforts to optimize the types of available computer-assisted software options, taking into account all potentially important endograft-specific and anatomy-specific features. The goal would continue to be decreased use of endograft components and junctions, because these affect cost and expected long-term durability of EVAR.

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